

REPORT ON MACHINERY

No. 712

SAT. DEC. 14. 1912

Received at London Office

Date of writing Report

When handed in at Local Office

19

Port of Boston

No. in Survey held at
Reg. Book.

Invincy Mass.

Date, First Survey

February 23

Last Survey

Nov. 16. 1912

14 Supply on the

s/s "NELSON"

Master John A. Thompson

Built at

Invincy Mass.

By whom built

Jore River Shipbuilding Co.

When made

1912

Engines made at

Invincy

By whom made

Jore River Shipbuilding Co.

when made

1912

Boilers made at

Buffalo N. Y.

By whom made

Lake Erie Boiler Works

when made

1912

Registered Horse Power 448

Owners

Cuba Distilling Company

Port belonging to

New York

Nom. Horse Power as per Section 28

448

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

yes.

ENGINES, &c.—Description of Engines

Vertical triple expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

25-41-68

Length of Stroke

48

Revs. per minute

70

Dia. of Screw shaft

as per rule 14.16

Material of

as fitted 14.75 screw shaft

Is the screw shaft fitted with a continuous liner the whole length of the stern tube

yes

Is the after end of the liner made water tight

in the propeller boss

yes

If the liner is in more than one length are the joints burned

If the liner does not fit tightly at the part

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

If two

liners are fitted, is the shaft lapped or protected between the liners

Length of stern bush

5'-0"

Dia. of Tunnel shaft

as per rule 12.91

Dia. of Crank shaft journals

as per rule 13.55

Dia. of Crank pin

14

Size of Crank webs

9 1/2 x 2 1/2

Dia. of thrust shaft under

collars

13.75

Dia. of screw

16.9

Pitch of Screw

17.6

No. of Blades

4

State whether moveable

yes

Total surface

92.30

No. of Feed pumps

2

Diameter of ditto

7 x 10

Stroke

10

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

Diameter of ditto

4 1/2

Stroke

20

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

Two

Sizes of Pumps

10 x 12 x 10

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room

Seven - 3 1/2

In Holds, &c.

Two - 3 1/2

No. of Bilge Injections

1

sizes

8

Connected to

to circulating pump

yes

Is a separate Donkey Suction fitted in Engine room & size

yes

4

Are all the bilge suction pipes fitted with roses

yes

Are the roses in Engine room always accessible

yes

Are the sluices on Engine room bulkheads always accessible

yes

Are all connections with the sea direct on the skin of the ship

yes

Are they Valves or Cocks

Both

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates

yes

Are the Discharge Pipes above the deep water line

yes

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel

yes

Are the Blow Off Cocks fitted with a spigot and brass covering plate

yes

What pipes are carried through the bunkers

Steam to deck machinery

How are they protected

Covered with iron casing

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

yes

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges

yes

Dates of examination of completion of fitting of Sea Connections

August 5

of Stern Tube

August 5

Screw shaft and Propeller

August 6

Is the Screw Shaft Tunnel watertight

yes

Is it fitted with a watertight door

yes

worked from

yes

BOILERS, &c.—(Letter for record

5.)

Manufacturers of Steel

Report of boilers enclosed

Type

3. Scotch Boilers

Total Heating Surface of Boilers

190 lbs

Is Forced Draft fitted

yes

No. and Description of Boilers

3. Scotch Boilers

No. of Certificate

16

Working Pressure

190 lbs

Tested by hydraulic pressure to

190 lbs

Date of test

yes

No. and Description of Safety Valves to

each boiler

3" Duplex spring

Area of each valve

70

Pressure to which they are adjusted

190 lbs

Smallest distance between boilers or uptakes and bunkers or woodwork

70

Mean dia. of boilers

Length

Material of shell plates

Thickness

Range of tensile strength

Are the shell plates welded or flanged

Descrip. of riveting: cir. seams

long. seams

Diameter of rivet holes in long. seams

Pitch of rivets

Lap of plates or width of butt straps

Size of manhole in shell

Per centages of strength of longitudinal joint

rivets

Working pressure of shell by rules

Material

Outside diameter

No. of strengthening rings

Length of plain part

top

Thickness of plates

bottom

Size of compensating ring

No. and Description of Furnaces in each boiler

Material

Outside diameter

Length of plain part

top

Thickness of plates

bottom

Description of longitudinal joint

No. of strengthening rings

Material

Outside diameter

No. of strengthening rings

Length of plain part

top

Working pressure of furnace by the rules

Combustion chamber plates: Material

Thickness: Sides

Back

Top

Bottom

Working pressure by rules

Pitch of stays to ditto: Sides

Back

Top

Bottom

Working pressure by rules

End plates in steam space:

Material of stays

Diameter at smallest part

Material of stays

Diameter at smallest part

Area supported by each stay

Working pressure by rules

Material of Front plates at bottom

Working pressure of plate by rules

Thickness

Material of Lower back plate

Thickness

Greatest pitch of stays

Working pressure of plate by rules

Mean pitch of stays

Diameter of tubes

Pitch of tubes

Material of tube plates

Pitch across wide water spaces

Working pressures by rules

Girders to Chamber tops: Material

Depth and

thickness of girder at centre

Length as per rule

Distance apart

Number and pitch of stays in each

Working pressure by rules

Superheater or Steam chest; how connected to boiler

Can the superheater be shut off and the boiler worked

separately

Diameter

Length

Thickness of shell plates

Material of flue plates

Thickness

Diameter of flue

Material of flue plates

Thickness

If stiffened with rings

Distance between rings

Working pressure by rules

End plates: Thickness

How stayed

Are they fitted with easing gear

Working pressure of end plates

Area of safety valves to superheater

007881-007887-0233

Lloyd's Register

Is the Screw Shaft Tunnel watertight

yes

Is it fitted with a watertight door

yes

worked from

yes

No. and Description of Safety Valves to

each boiler

3" Duplex spring

Area of each valve

70

Pressure to which they are adjusted

190 lbs

Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork

70

Mean dia. of boilers

Length

Material of shell plates

Thickness

Range of tensile strength

Are the shell plates welded or flanged

Descrip. of riveting: cir. seams

long. seams

Diameter of rivet holes in long. seams

Pitch of rivets

Lap of plates or width of butt straps

Size of manhole in shell

Per centages of strength of longitudinal joint

rivets

Working pressure of shell by rules

Material

Outside diameter

No. of strengthening rings

Length of plain part

top

Thickness of plates

bottom

Size of compensating ring

No. and Description of Furnaces in each boiler

Material

Outside diameter

Length of plain part

top

Thickness of plates

bottom

Description of longitudinal joint

No. of strengthening rings

Material

Outside diameter

No. of strengthening rings

Length of plain part

top

Working pressure of furnace by the rules

Combustion chamber plates: Material

Thickness: Sides

Back

Top

Bottom

Working pressure by rules

Pitch of stays to ditto: Sides

Back

Top

Bottom

Working pressure by rules

End plates in steam space:

Material of stays

Diameter at smallest part

Material of stays

Diameter at smallest part

Area supported by each stay

Working pressure by rules

Material of Front plates at bottom

Working pressure of plate by rules

Thickness

| No. | Description | | | | | | | | | |
|--------------------------------------|--|--|---------------------------|--|-------------------------------------|--|----------------------------------|--|-----------------------|--|
| Made at | By whom made | | When made | | Where fixed | | | | | |
| Working pressure | tested by hydraulic pressure to | | Date of test | | No. of Certificate | | Fire grate area | | Description of Safety | |
| Valves | No. of Safety Valves | | Area of each | | Pressure to which they are adjusted | | Date of adjustment | | | |
| If fitted with easing gear | If steam from main boilers can enter the donkey boiler | | Dia. of donkey boiler | | Length | | | | | |
| Material of shell plates | Thickness | | Range of tensile strength | | Descrip. of riveting long. seams | | | | | |
| Dia. of rivet holes | Whether punched or drilled | | Pitch of rivets | | Lap of plating | | Per centage of strength of joint | | Rivets Plates | |
| Working pressure of shell by rules | Thickness of shell crown plates | | Radius of do. | | No. of stays to do. | | Dia. of stays | | | |
| Diameter of furnace Top | Bottom | | Length of furnace | | Thickness of furnace plates | | Description of joint | | | |
| Working pressure of furnace by rules | Thickness of furnace crown plates | | Radius of do. | | Stayed by | | | | | |
| Diameter of uptake | Thickness of uptake plates | | Thickness of water tubes | | Dates of survey | | | | | |

SPARE GEAR. State the articles supplied:—1 Section crank shaft. 1 Propeller shaft. 1 Propeller boss and blades
1 Set top end brasses and bolts. 1 Set bottom end brasses and 4 bolts and nuts. Two main
bearing bolts and set of brasses. One set coupling bolts. One set feed and bilge pump
valves. One set air pump valves and guards. Set of piston rings for each cylinder. Eccentric
rod and strap. Valve spindle. Air pump rod and
nut. Assorted iron. Fifty Condenser tubes.
Thirty six boiler tubes, and boiler stoppers

| | | | |
|---|--|---|---|
| Dates of Survey while building | { During progress of work in shops - - } { During erection on board vessel - - - } Total No. of visits | March 25 th April 1, 30 th May 2, 9, 22, 24, 31, June 6 th , 13, 18, 27, July 17, 18, 22, August 13, 20, 26, 29, Sept 5, 16, 23, Oct 1, 9, 18, 22, 24, 29, Nov 9, 11, 15 th 32. | Is the approved plan of main boilers forwarded herewith. <i>Yes</i> ✓ |
|---|--|---|---|

Dates of Examination of principal parts—Cylinders May 9th Slides May 31 Covers May 31 Pistons July 24 Rods June 6
Connecting rods June 6 Crank shaft June 6 Thrust shaft July 18 Tunnel shafts ✓ Screw shaft June 10 Propeller June 10
Stern tube June 18 Steam pipes tested October 9 Engine and boiler seatings July 13 Engines holding down bolts Aug. 26
Completion of pumping arrangements October 18 Boilers fixed Sept. 7/16 Engines tried under steam October 24th
Main boiler safety valves adjusted November 11th Thickness of adjusting washers P. Boiler Pt. 24" 95 51.35 S.B. Pt. 15" 64 31 15" 96 14" 98 11" 98
Material of Crank shaft Steel Identification Mark on Do. 6.6.12 Material of Thrust shaft Steel Identification Mark on Do. 6.6.12
Material of Tunnel shafts ✓ Identification Marks on Do. BSM. Material of Screw shafts Steel Identification Marks on Do. 6.6.12
Material of Steam Pipes Steel ✓ Test pressure 500 lbs per sq. in. ✓

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery has been built) under special survey and the material and workmanship throughout are good and in my opinion eligible for the record of I.F.L.M.C. 11.12.

On the trial trip a latent defect developed in the casting of the valve casing on the port side of the intermediate cylinder. This fracture has now been efficiently repaired, by a fitted metal patch. The Builders are however obtaining a new intermediate cylinder which will be fitted at their yard in January 1913 when the vessel will return there.

It is submitted that
this vessel is eligible for
THE RECORD + LMC 11.12
F.D. (11.12)

2. { Subject to a new I. P.
cylinder being fitted.
at an early date.
16/12/18.

| | | | |
|------------------------------|-------|------------------|----------|
| The amount of Entry Fee | \$102 | When applied for | 10/21/22 |
| Special | \$212 | | |
| Donkey Railer Fee | £ | When received | 10/21/22 |
| Travelling Expenses (if any) | \$37 | | |

Edward Temple
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

Assigned

TUE: DEC. 17. 1912

June 11 13

[Faint handwritten notes at the bottom of the page]

FRI OCT 30 1914

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ERI JAN 16 1954

FRI. JAN. 16, 1914

FRI MAY 2

DEC. 24. 1912

FRI. APR 11 1941

TUE APR 1

1913 FRI. AUG.

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5-19-13

29.1913

Foundation

Certificate (if required) to be sent to...